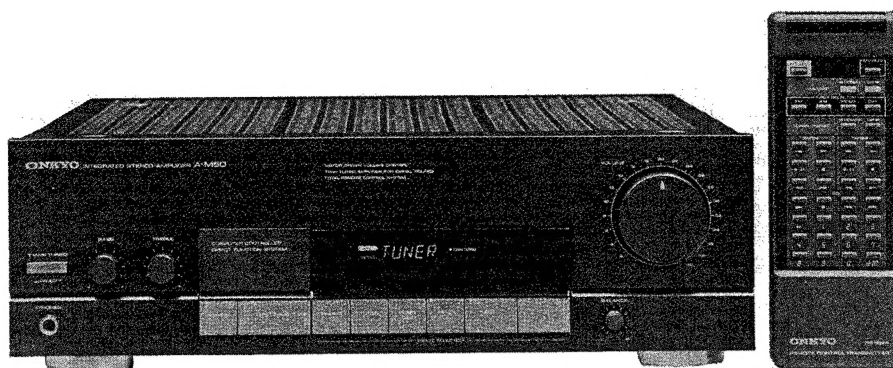


# ONKYO® SERVICE MANUAL

## Integrated Stereo Amplifier MODEL A-M50



U G	220V AC, 50Hz
UQ (A,B)	240V AC, 50Hz
U W	120V/220V AC, 50Hz/60Hz

### SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  $\Delta$  ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PARTS NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

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**ONKYO**  
**AUDIO COMPONENTS**

## SPECIFICATIONS

Power Output:	40 watts per channel, min. RMS, at 8 ohms, both channels driven from 20 Hz to 20 kHz, with no more than 0.15% THD. 45 watts per channel, min. RMS, at 8 ohms, both channels driven 1 kHz, with no more than 0.15% THD.	Signal to noise Ratio:	Phono: 80 dB (IHF A), 5 mV input CD & Tape: 95 dB (IHF A)
		Selective Tone Control:	+15 dB at 55 Hz, +6 dB at 10kHz
Total Harmonic Distortion:	0.15% at rated power	General	
IM Distortion:	0.1% at rated power	Power Supply:	European models: AC 220V, 50 Hz U.K. & Australian models: AC 240 V, 50 Hz Worldwide models: AC 120V and 220V switchable, 50/60 Hz
Damping Factor:	40 at 8 ohms		
Frequency Response:	15 - 30,000 Hz $\pm$ 1 dB	Dimensions:	360 (W) x 116 (H) x 347 (D) mm 14-3/16" x 4-9/16" x 13-11/16"
Sensitivity and Impedance:	Phono: 2.5 mV/50 kohms Tuner, CD, Video/CDV: 150 mV/50 kohms Tape, DAT Play: 150 mV/50 kohms Tape, DAT Rec: 150 mV/4.5 kohms (phono)	Weight:	5.7kg, 12.6lbs.
Phono Overload:	120 mV RMS at 1 kHz, 0.5% THD		
Bass Control:	$\pm$ 10 dB at 100 Hz		
Treble Control:	$\pm$ 10 dB at 10 kHz		

Specifications are subject to change without notice due to product improvements.

## PRECAUTIONS

### 1. Replacing the fuses

For continued protection against risk fire, replace only with same type and same rating fuse.

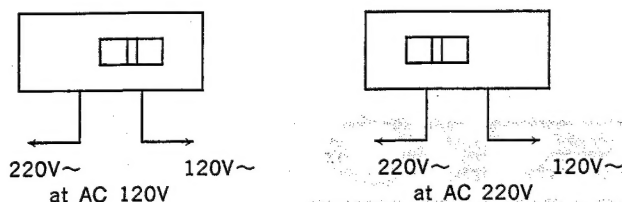
CIRCUIT NO.	PART NO.	DESCRIPTION
F902	252073 or 252073CC	1.6A-SE-EAK, Primary fuse(220V,240V,120V/220V model)
F903	252075 or 252075CC	1.6A-SE-EAK, Primary fuse(220V,240V,120V/220V model)
		2.5A-SE-EAK, AC outlet fuse (220V model)
		2.5A-SE-EAK, AC outlet fuse (220V model)
F904	252048	3A(ST-6), Primary fuse(120V/220V model)
F501,F502	252076	3.15A-SE-EAK, Speaker fuse

### 2. Voltage selector (rear panel)

Worldwide models are equipped with a voltage selector to conform with local power supplies. Be sure to set this switch to match the voltage of the power supply in your area before turning the power switch on.

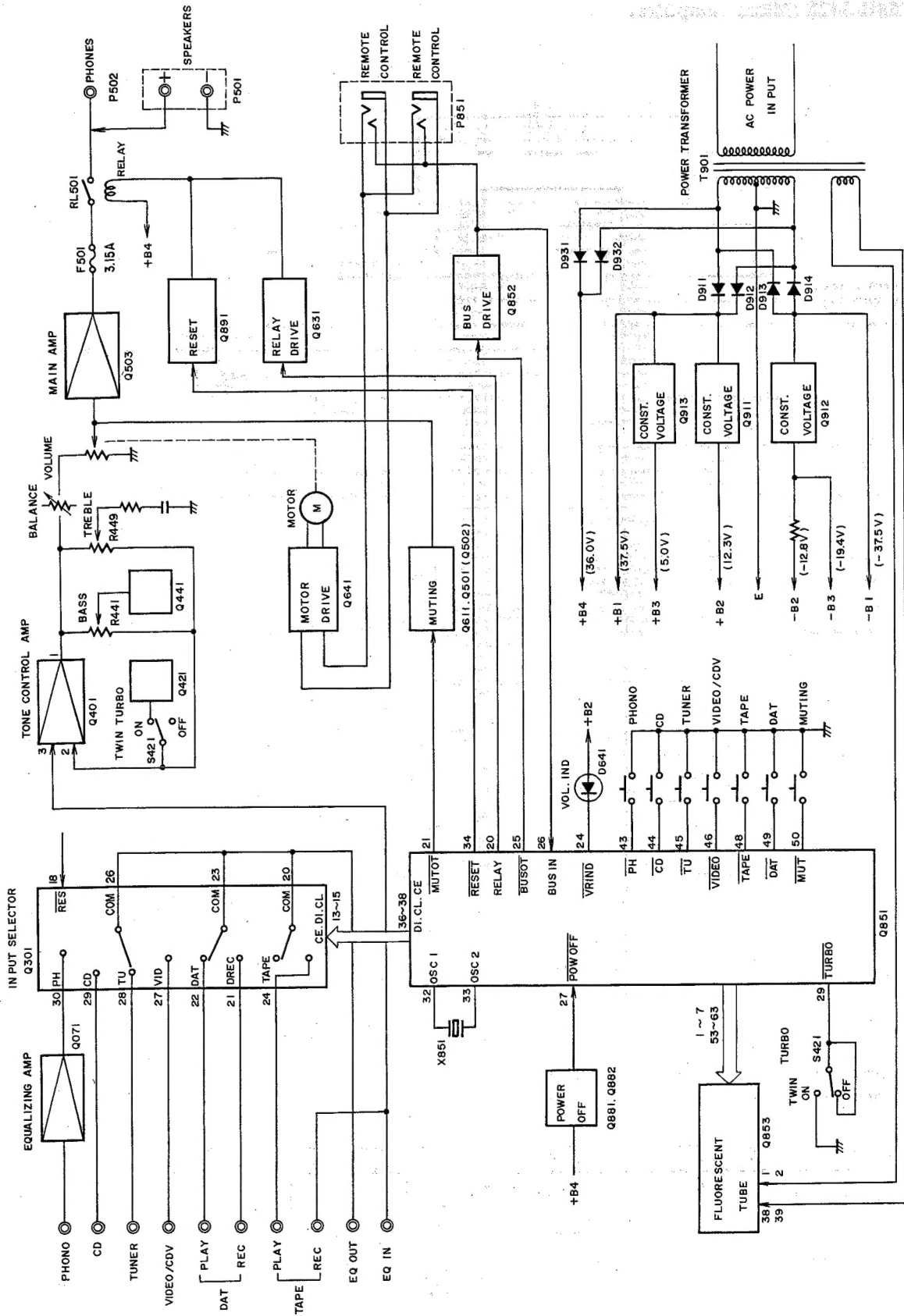
Voltage is changed by sliding the groove in the switch with a screwdriver to the right or left.

Confirm that the switch has been moved all the way to the right or left before turning the power switch on. Models without a voltage selector can only be used in areas where the power supply is the same as that of the unit.



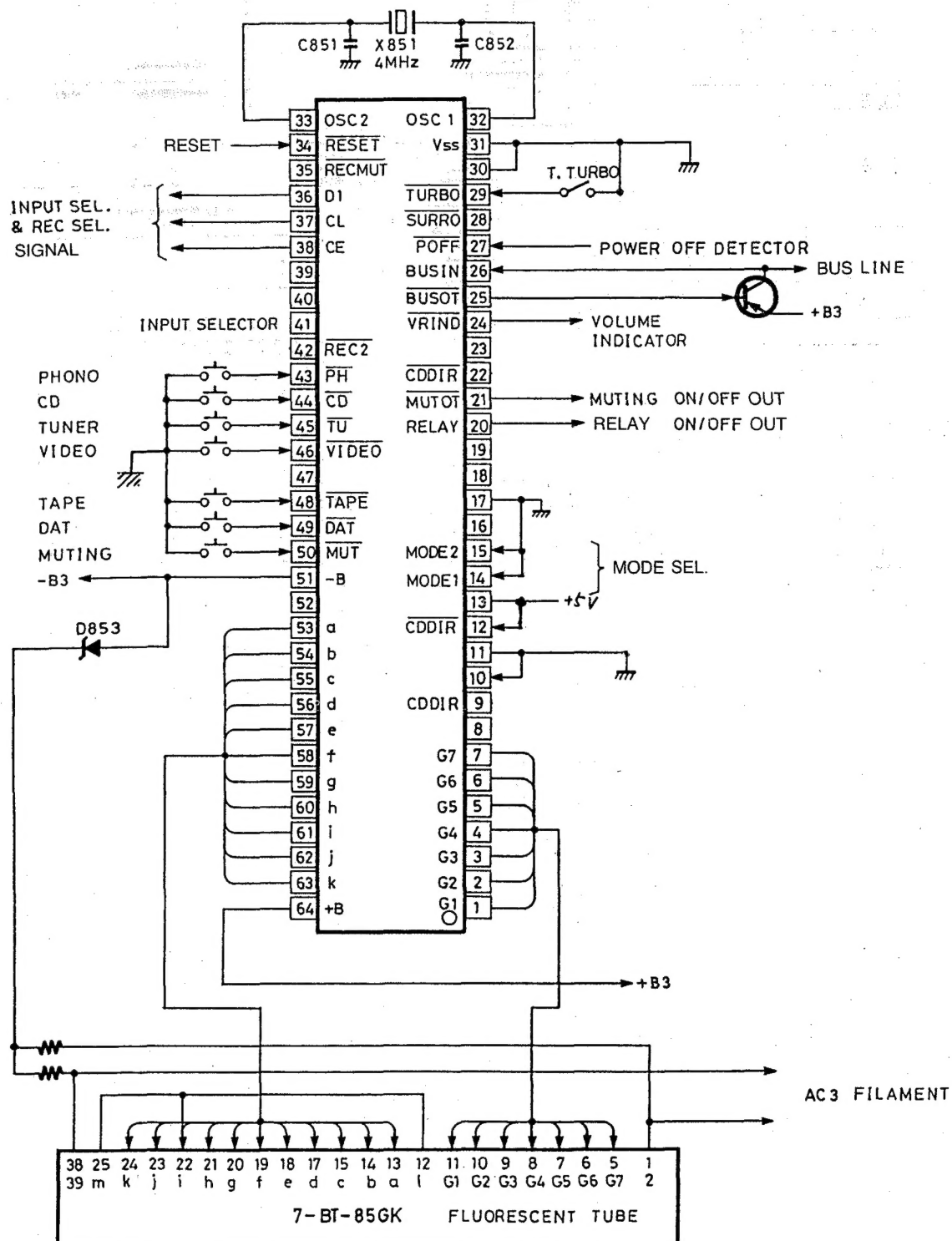
WORLDWIDE MODELS ONLY

# BLOCK DIAGRAM



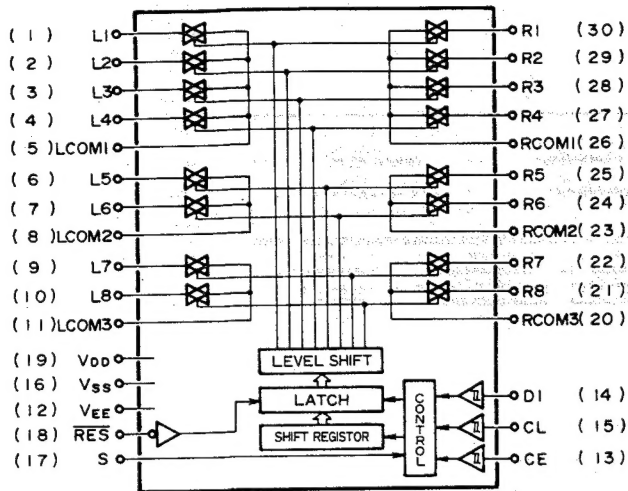
## IC BLOCK DIAGRAM

LC6554H-3428 (Micro computer)

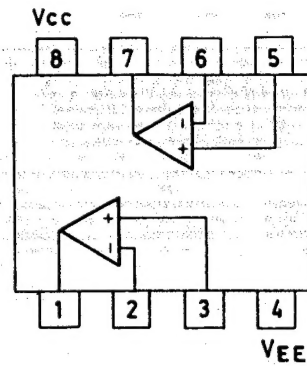




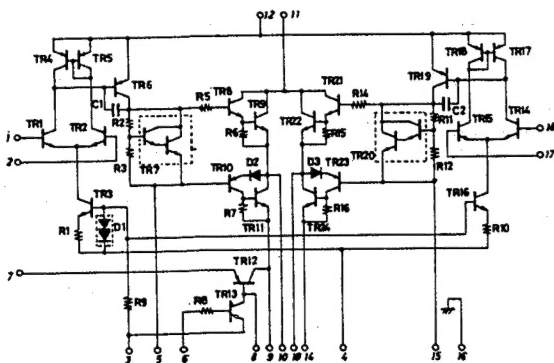
### LC7821 (Analog switch)



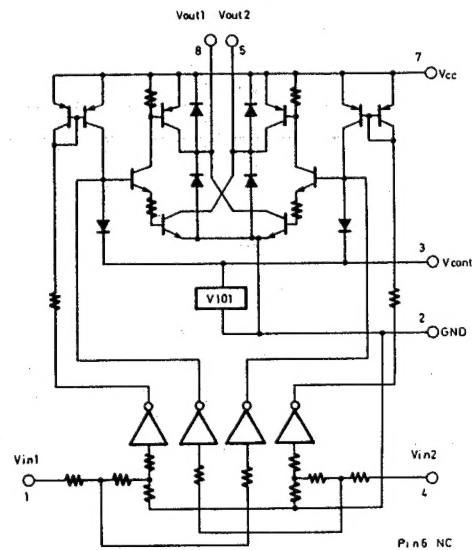
### $\mu$ PC4570C (OP Amp) NJM4565DD



### STK4151V (Power amp)



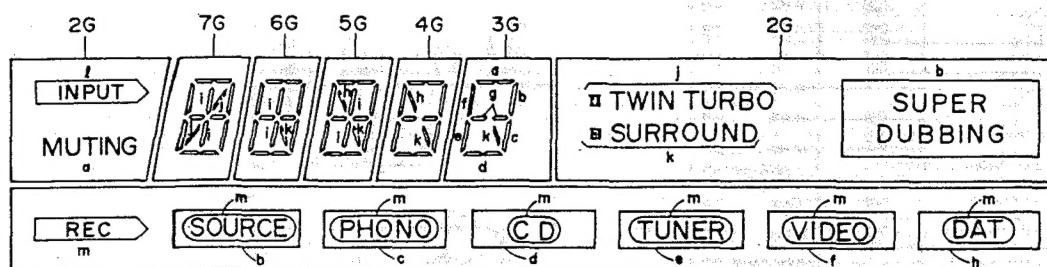
### LB1630 (Motor drive)



#### TRUTH TABLE

IN 1	IN 2	OUT 1	OUT 2	MOTOR
H	L	H	L	Normal
L	H	L	H	Reverse
H	H	OFF	OFF	Wait
L	L	OFF	OFF	Wait

7-BT-85GK (Fluorescent Indicator Tube)



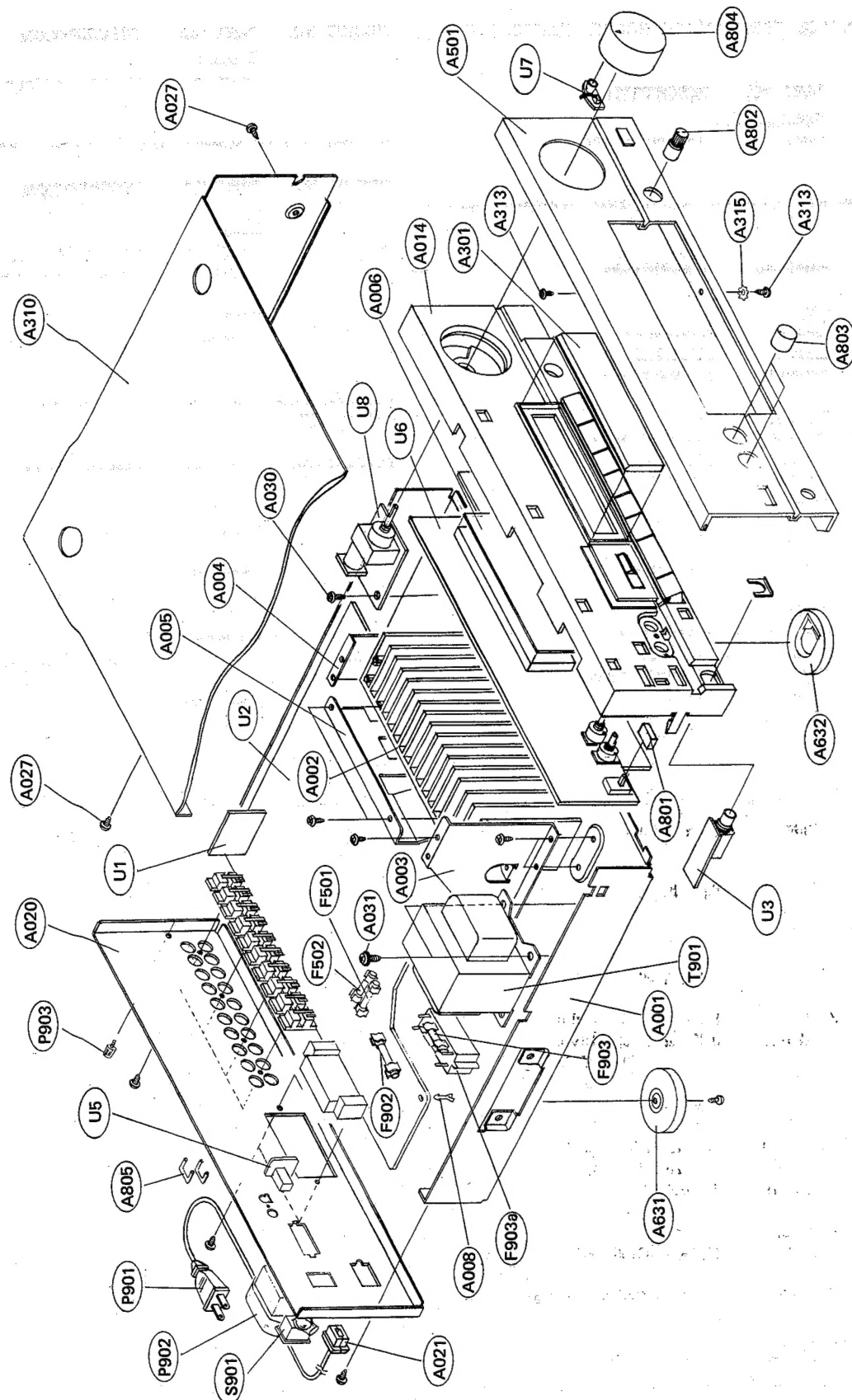
Pin NO.	1	2	3	4	5	6	7	8	9	10
Electrod	F1	F1	NP	NP	7G	6G	5G	4G	3G	2G

Pin NO.	11	12	13	14	15	16	17	18	19	20
Electrod	1G	1	a	b	c	NP	d	e	f	g

Pin NO.	21	22	23	24	25	26	27	28	29	30
Electrod	h	i	j	k	■	NP	NP	NP	NP	NP

Pin NO.	31	32	33	34	35	36	37	38	39	
Electrod	NP	NP	NP	NP	NP	NP	NP	F2	F2	

## CHASSIS-EXPLODED VIEW-PARTS LIST



CHASSIS-EXPLODED VIEW

REF. NO.	PART NO.	DESCRIPTION
A001	27100139-4	CHASSIS
A002	27160193	HEATSINK
A003	27130484	BRACKET, HL
A004	27130481A	BRACKET, HR
A005	27130447	BRACKET, IC
A006	28133185	BACK PLATE-A
A008	27190524	KGLS-14R, HOLDER
A014	27110369-1A	FRONT ANGLE ASS'Y
(A014a)	27110370-1A	FRONT ANGLE
(A014b)	28323086A	KNOB (SEL)
(A014c)	28323087	KNOB (PLATE)
(A014f)	28194273	COSMETIC BAR
A020	27121269	BACK PANEL [G]
	27121269-1	BACK PANEL [W]
	27121269-2	BACK PANEL [A][B]
A021	27300750	BUSHING, CABLE
A027	834430088	3TTS+8BBC, TAP-TIGHT SCREW
A030	831130088	3TTW+8B, TAP-TIGHT SCREW
A031	830440089	4TTC+8CBC, TAP-TIGHT SCREW
A301	28191428A	CLEAR PLATE
A501	27210887-1	FRONT PANEL
A631	27175224A	BOTTOM LEG (100)
A632	27175161	BOTTOM LEG (RING)
A310	28184371-1	TOP COVER
A313	833430080	3TTP+8PBC, TAP-TIGHT SCREW
A315	87313006	M-3BBC, TOOTHED WASHER
A801	28323090	KNOB (PUSH)
A802	28322842-1	KNOB (VOL)
A803	28323091	KNOB (TONE)
A804	28323092	KNOB ASS'Y (VOL)
A805	27141033	SHORTED PIN
△T901	2300434A	NPT-1034G, POWER TRANSFORMER [G]
△T901	2300435A	NPT-1034DG, POWER TRANSFORMER [W]
△T901	2300436A	NPT-1034Q, POWER TRANSFORMER [A][B]
△S901	25065340	NSS-0001, SWITCH
△S903	25065123	NSS-1258P, SLIDE SWITCH [W]
△P901	253148 or 253150	AS-CEE, POWER SUPPLY CABLE [G][W][B]
△P901	253118	AS-SAA, POWER SUPPLY CABLE [G][W][B]
△P902	25050337	NSCT-2P164, AC SOCKET [A]
△P902	25050346	NSCT-2P173, AC SOCKET [G][W][B]
P903	25060044	GROUND TERMINAL [A]
F501,F502	252076	3.15A-SE-EAK, SPEAKER FUSE
△F902	252073 or 252073CC	1.6A-SE-EAK, PRIMARY FUSE
△F903	252075 or 252075CC	1.6A-SE-EAK, PRIMARY FUSE [G]
		2.5A-SE-EAK, SOCKET FUSE [G]
F903a	25050211	H0445, FUSE HOLDER [G]
F903b	29360405	T2.5A/250V, FUSE LABEL [G]
△F904	252048	3A(ST-6), PRIMARY FUSE [W]
U001	1A086554-3	NAAF-3054-3, EQUALIZER CIRCUIT PC BOARD ASS'Y
U002	1A168583-1A	NAAF-3583-1A, MAIN CIRCUIT PC BOARD ASS'Y [G][A][B]

REF. NO.	PART NO.	DESCRIPTION
U002	1A168583-1B	NAAF-3583-1B, MAIN CIRCUIT PC BOARD ASS'Y [W]
U003	1A168584-1	NAETC-3584-1, HEAD PHONE CIRCUIT PC BOARD ASS'Y
U005	1A168586-1	NAETC-3586-1, REMOTE CONTROL TERMINAL PC BOARD ASS'Y
U006	1A168587-1	NASW-3587-1, REMOTE CONTROL CIRCUIT PC BOARD ASS'Y
U007	1A168588-1	NADIS-3588-1, VOLUME LED PC BOARD ASS'Y
U008	1A168589-1	NAETC-3589-1, VOLUME CONTROL CIRCUIT PC BOARD ASS'Y

NOTE: [G]: ONLY 220V MODELS  
[W]: ONLY 120V/220V MODELS  
[A]: ONLY AUSTRALIAN MODELS  
[B]: ONLY BRITISH MODELS

NOTE: THE COMPONENTS IDENTIFIED BY MARK △ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PARTS NUMBER SPECIFIED.

## PRINTED CIRCUIT BOARD PARTS LIST

## EQUALIZER CIRCUIT PC BOARD (NAAF-3054-3) PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	IC	
Q071	22240050	$\mu$ PC4570C
	Capacitors	
C071,C072	354780229	2.2 $\mu$ F, 50V, Elect.
C077,C078	354721019	100 $\mu$ F, 6.3V, Elect.
C083,C084	354780229	2.2 $\mu$ F, 50V, Elect.
C085,C086	354742219	220 $\mu$ F, 16V, Elect.

P071	25055334	NPLG-9P317
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## MAIN CIRCUIT PC BOARD (NAAF-3583-1A,NAAF-3583-1B) PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q301	22240079	LC7821
Q503	222044	STK4151V

	Transistors	
Q501,Q502	2212285 or 2212286	2SC2878-A or 2SC2878-B
Q631	2211255 or 2210746	2SC1815-GR or 2SC945A-P
Q911,Q913	2201404 or 2201405	2SD1406-Y or 2SD1406-GR
Q912	2201393 or 2201394	2SB1015-O or 2SB1015-Y

	Diodes	
D631	223163	1SS133
D911~D914	223897 or 22380003	P300DL or 1N5402F
D915	224151302 or 224651302 or 224451302	05AZ13Y or HZ13EB2 or MTZ13B
D916	224152003 or 224652003 or 224452003	05AZ20Z or HZ20EB3 or MTZ20C
D917	224150562 or 224650562 or 224450562	05AZ5.6Y or HZ5.6EB2 or MTZ5.6B
D918	224151301 or 224651301 or 224451301	05AZ13X or HZ13EB1 or MTZ13A
D931,D932	223880 or 223896	GP101N4003 or 1N4003F

L531,L532	231001	S-1.3B
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	Capacitors	
C351	354780229	2.2 $\mu$ F, 50V, Elect.
C352,C353	354780339	3.3 $\mu$ F, 50V, Elect.
C501,C502	354780479	4.7 $\mu$ F, 50V, Elrct.
C505,C506	354741019	100 $\mu$ F, 16V, Elect.
C509,C510	354784709	47 $\mu$ F, 50V, Elect.
C511,C512	371124734	0.047 $\mu$ F, 50V, Mylar
C515,C516,C519	354781009	10 $\mu$ F, 50V, Elect.
C517,C518	354782219	220 $\mu$ F, 50V, Elect.
C911,C912	3504207	6800 $\mu$ F, 50V, Elect.
C913,C914	354782219	220 $\mu$ F, 50V, Elect.

CIRCUIT NO.	PART NO.	DESCRIPTION
C915	354741019	100 $\mu$ F, 16V, Elect.
C916	354761019	100 $\mu$ F, 35V, Elect.
C919	354742219	220 $\mu$ F, 16V, Elect.
C920	354754719	470 $\mu$ F, 25V, Elect.
C921	354782219	220 $\mu$ F, 50V, Elect.
C922	354742219	220 $\mu$ F, 16V, Elect.
C923,C925	354722219	220 $\mu$ F, 6.3V, Elect.
C931	354781019	100 $\mu$ F, 50V, Elect.

	Resistors	
R509~R512	442523324	3.3 K $\Omega$ , 1/2W, Metal oxide film
R513,R514	441520474	4.7 $\Omega$ , 1/2W, Metal oxide film
R515,R516	442521014	100 $\Omega$ , 1/2W, Metal oxide film
R533,R534	441621004	10 $\Omega$ , 1W, Metal oxide film
R631	441624314	430 $\Omega$ , 1W, Metal oxide film
R911	441622714	270 $\Omega$ , 1W, Metal oxide film
R912	441525104	51 $\Omega$ , 1/2W, Metal oxide film
R913	442524324	4.3 k $\Omega$ , 1/2W, Metal oxide film
R914	441522724	2.7 K $\Omega$ , 1/2W, Metal oxide film
R915	441721514	150 $\Omega$ , 2W, Metal oxide film
R916	441622014	200 $\Omega$ , 1W, Metal oxide film
R917	442525124	5.1 K $\Omega$ , 1/2W, Metal oxide film
R932	441622224	2.2 K $\Omega$ , 1W, Metal oxide film

RL501	25065134	NRL-2P5A-DC24V-07
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	Terminals	
P301,P302	25045213	NPJ-6PDBL-92
P303,P304	25045171	NPJ-4PDBL-65
P501	25060116	NTM-4PDML050
		NTM-1S33

P401a	25055133	NPLG-3P117
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	Jumper sockets	
JL401a	25050268	NSCT-4P-96
JL402a	25050270	NSCT-6P-98
JL403a	25050272	NSCT-8P-100
JL408a	25050270	NSCT-6P-98

	Glass tube	
79086A		ESG-3

	Bracket	
27141059		

	Fuse holders	
25050065	YSH403T	[G][A][B]
250113	SN5051	[W]

## HEAD PHONE CIRCUIT PC BOARD (NAETC-3584-1) PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Resistors	
R531,R532	441623914	390 $\Omega$ , 1W, Metal oxide film
	Jack	
P502	25045232	HLJ4307-01-3140

## REMOTE CONTROL TERMINAL PC BOARD (NAETC-3586-1) PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Miniature jack	
P851	25045172	HSJ1003-01-020

## REMOTE CONTROL CIRCUIT PC BOARD (NASW-3587-1) PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q401~Q441	22240191 or 22240050	NJM4565DD or $\mu$ PC4570C
Q851	22240080	LC6554H-3428

	Transistors	
Q611,Q852,Q882	2211455 or 2212495	2SA1015-GR or JA101-Q
Q881,Q891	2211255 or 2212485	2SC1815-GR or JC501-Q

Q853	212041	7-BT-85GK
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	Diodes	
D851	224150562 or 224650562 or 224450562	05AZ5.6Y or HZ5.6EB2 or MTZ5.6B, Zener
D852,D891	223163	1SS133
D853	224150513 or 224650513 or 224450513	05AZ5.1Z or HZ5.1EB3 or MTZ5.1C, Zener

X851	3010099	CSA4.00MG
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	Capacitors	
C401,C402,C409	354780229	2.2 $\mu$ F, 50V, Elect.
C410,C423,C424		
C461,C462,C465		
C469,C470		
C407,C408,C441	354780339	3.3 $\mu$ F, 50V, Elect.
C442,C445,C446		
C421,C422	371128224	8200 pF, 50V, Mylar
C425,C426	371125134	0.051 $\mu$ F, 50V, Mylar
C443,C444,C449	371122234	0.022 $\mu$ F, 50V, Mylar
C450		
C611	354780109	1 $\mu$ F, 50V, Elect.
C853,C857,C858	354761009	10 $\mu$ F, 35V, Elect.
C856	354721019	100 $\mu$ F, 6.3V, Elect.
C891	354781009	10 $\mu$ F, 50V, Elect.
C892	354780479	4.7 $\mu$ F, 50V, Elect.

	Resistors	
R441,(R442)	5104208	N16RGHC100KWT20Z Variable
R449,(R450)		
R477	5104182	N16RMC250KW20Z Variable

	Switches	
S421,(S461)	25035588	NPS-142-L550
S852~S858	25035548	NPS-111-S510

	Socket ass'y	
P401	2000523	NSAS-6P479
P641	2000635A	NSAS-4P591

CIRCUIT NO.	PART NO.	DESCRIPTION
	Cushion	
	28140778	t8 $\times$ 100 $\times$ 11mm

## VOLUME LED PC BOARD (NAETC-3588-1) PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Diode	
D641	225241 or 225242	SEL2210R-C or SEL2210R-D, LED
	Holder	
	27190545	(LED)

## VOLUME CONTROL CIRCUIT PC BOARD (NAETC-3589-1) PARTS LIST

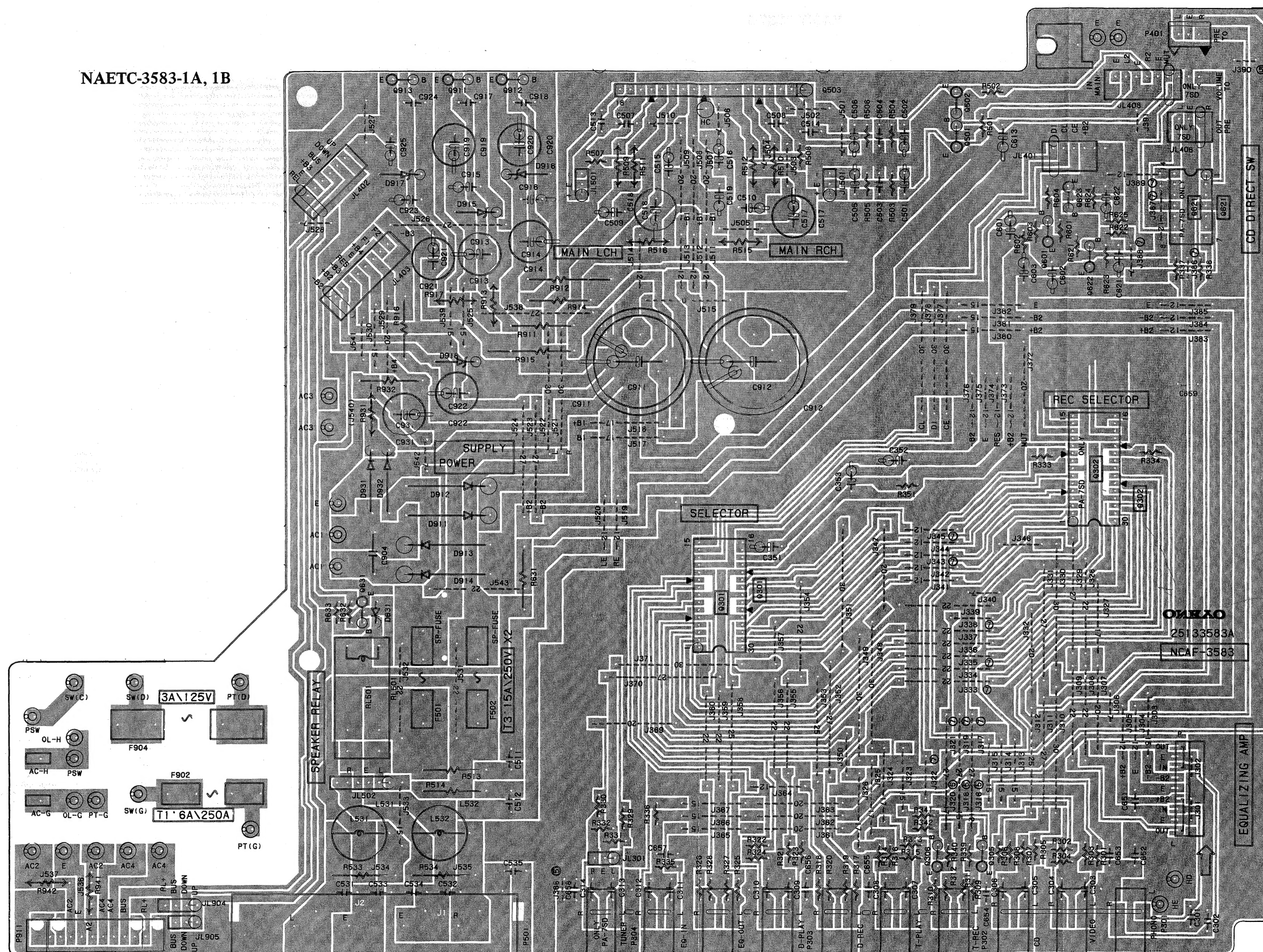
CIRCUIT NO.	PART NO.	DESCRIPTION
	IC	
Q641	222963	LB1630
	Capacitor	
C641	354741009	10 $\mu$ F, 16V, Elect.
	Resistors	
R479,(R480)	5104210	N16RGM50KD30F, Variable
	Plate (Bus)	
	27141059	

NOTE  
 [G]: Only 220V MODELS  
 [W]: Only 120V/220V MODELS  
 [A]: ONLY AUSTRALIAN MODELS  
 [B]: ONLY BRITISH MODELS



## PRINTED CIRCUIT BOARD VIEW FROM BOTTOM SIDE

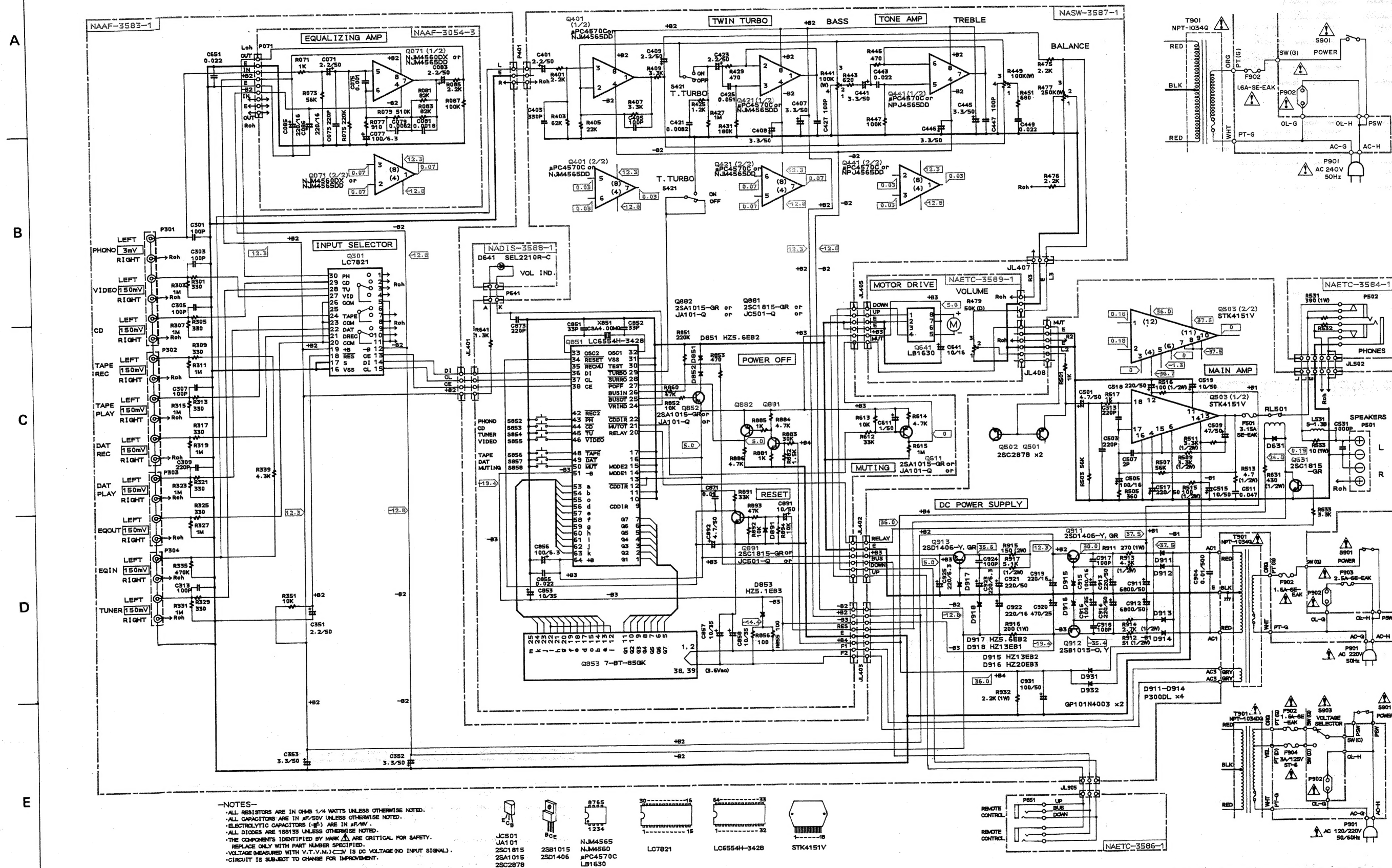
NAETC-3583-1A, 1B





## A-M50

## SCHEMATIC DIAGRAM



ONKYO CORPORATION

## PARTS LIST OF PACKING

REF. NO.	PART NO.	DESCRIPTION
A851	29051924	MASTER CARTON BOX
A852	29091268A	PAD, LEFT
A853	29091269A	PAD, RIGHT
A854	29100063	500 × 750, POLY-VINYL BAG
A855	282301	SEALING HOOK
A856	260012	W=50 mm, DAMPLON TAPE
A857	261504	W=30 mm, PAPER TAPE
	29360863	LABEL (CAUTION) [B]

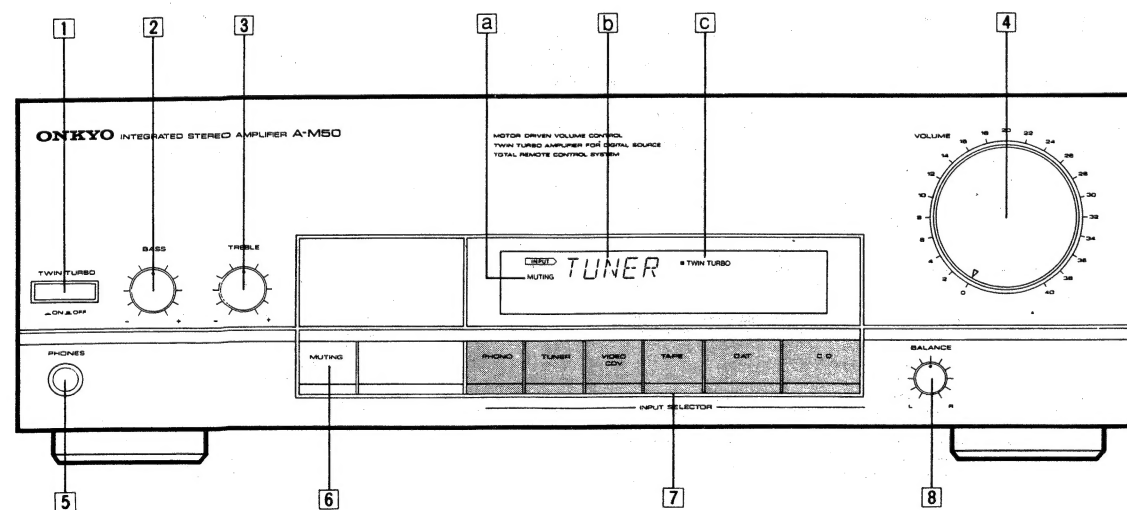
### ACCESSORY BAG ASS'Y

29341420	INSTRUCTION MANUAL	
29355133	CAUTION LABEL (DBP)	[G]
29365020A	WARRANTY CARD	[V]
29365022	WARRANTY CARD	[B]
29100006A	350 x 250, POLY-VINYL BAG	
29100094A	POLY-VINYL BAG (WARRANTY CARD)	[V]

### NOTE

- [G]: ONLY 220V MODELS  
 [V]: ONLY WEST GERMANY MODELS  
 [B]: ONLY BRITISH MODELS

## FRONT PANEL FACILITIES



- Selective Tone Switch (TWIN TURBO)
- Bass Control Knob (BASS)
- Treble Control Knob (TREBLE)
- Volume Control (VOLUME) and Indicator
- Headphone Jack (PHONES)
- Audio Muting Button (MUTING)
- Input Selector Button (INPUT SELECTOR) PHONO, TUNER, VIDEO/CDV, TAPE, DAT, CD
- Balance Control Knob (BALANCE)

- a Muting Indicator  
 b Input Selector Display  
 c Selective Tone Indicator (TWIN TURBO)

## ONKYO CORPORATION

International Division: Onarimon Yusen Bldg., 23-5, Nishi-Shimbashi 3-chome, Minato-ku, TOKYO 105, JAPAN Tel: 03-432-6987 Fax: 03-436-6979  
**ONKYO U.S.A. CORPORATION**  
 200 Williams Drive, Ramsey, N.J. 07446, U.S.A. Tel: 201-825-7950 Fax: 201-825-8150

**ONKYO Europe GmbH**  
 Hellersbergstrasse 4, 4040 Neuss WEST GERMANY  
 Tel: 49 2101 120075 Fax: 49 2101 103306